

CLAIMS

Claim 1. An apparatus for the measurement of a spectrum said apparatus comprising;

a CCD array including a plurality of individual detectors, each said detector producing a signal dependent in part on the amount of light measured by said detector;

a database of a dark signal measured by each said detector when no light has fallen on said detector;

a temperature-measuring device adapted to measure the temperature of said array, said database including the dark signal for each detector measured at several different temperatures;

a time calculating device adapted to measure exposure time, said database including the dark signal for each detector measured at several different exposure times; and

a signal correction device that reduces the signal measured by each said detector by the dark signal to produce a corrected signal for each said detector;

Claim 2. A method of correcting the signal of each detector in a CCD array measuring a light distribution across the array, said method comprising the steps of: measuring a dark signal of each detector when no light is falling onto said detector and storing said dark signal in a database;

measuring a light signal of each detector with light falling onto said array; and removing the dark signal for each detector from the measured light signal to provide a corrected spectrum.

Claim 3. A method of correcting the signal of each detector in a CCD array measuring a light distribution across the array as in claim 2 wherein said method further comprising the steps of:

(a) measuring the dark signal of each detector at a first temperature;

(b) storing the dark signal for each detector for said first temperature in a database;

(c) varying the temperature of said array to a second temperature;

repeating steps (a) to (c) for a number of different temperatures.

Claim 4. A method of correcting the signal of each detector in a CCD array measuring a light distribution across the array as in claim 3, said method comprising the steps of;

measuring the temperature of the array when measuring a light distribution;
recalling the dark signal for each detector stored in said database representative of said measured temperature; and

subtracting the recalled dark signal from the database for each detector from the measured signal of each detector.

Claim 5. A method of correcting the signal of each detector in a CCD array measuring a light distribution across the array as in claim 2 wherein said method further comprises the steps of taking the dark signal measurement over a pre-determined period.

Claim 6. A method of correcting the signal of each detector in a CCD array measuring a light distribution across the array as in claim 3 wherein said database is provided in a memory means located on said CCD array.

Claim 7. A method as in claim 3 wherein said dark signal stored in said database is an average of a plurality of dark signals measured over said time and temperature.

Claim 8. A method as in claim 3 wherein said database is provided on a CD or other storage media.

Claim 9. An apparatus for the measurement of a spectrum substantially as hereinbefore described with reference to the Figures.